Combined Basin Near-Term Actions (NTAs) for the 2018-2022 Action Agenda											
NTA ID	NTA Title	INTA Description		Sno-Stilly Alignment	Gap (Y/N)	Regional Priority Appro		Approach			
Habitat a	Habitat and Chinook										
2018-0393	Inventory and Prioritization	The County's in-house staff will collect culvert information of fish bearing streams to determine if the culverts are barriers per WDFW guidelines. If the culvert is determined to be a barrier a process of prioritizing that culvert will be performed by first determining a priority index (PI) number per WDFW guidelines. The PI numbers will allow the County to rank the culverts in order of priority based on WDFW guidelines. However, the County will then proceed with additional internal/external discussions to refine the prioritization based on other factors such as impervious area upstream, downstream barriers, proximity to the focus reaches, etc. This will allow the County to speed up the collection of data and have a better understanding of what needs to be done within the County to speed up salmon recovery.	ISnohomish County	SSLIO 10.2 Restoration	Y-New Project	CHIN 7.1					
2018-0134	Enhancing Lowland Anadromous Streams Using Beaver Dam Analogs (BDAs)	Within the Snohomish - Stillaguamish Watersheds, degraded spawning and rearing habitat are the greatest priority for restoration. Beaver Dam Analogs (BDAs) provide a quick and low-cost alternative to large-scale restoration efforts. Structures are comprised of conifer bole posts with a dense mat of live willow and alder interwoven between. These structures are designed to slow down run off, increase sediment aggradation, and add stream complexity by mimicking a beaver dam structure. When strategically placed, BDAs have the ability to create needed scour and retain water in backfill pools where salmon can successfully rear. These restoration efforts will occur in coordination with multiple agencies to identify and prioritize project sites that are seasonally disconnected from the watershed and lack sufficient spawning areas for salmon. In areas where beaver colonization is acceptable, the recruitment of beavers will maintain structures for long-term site productivity.	ITulalin Tribes	SSLIO 10.2 Restoration	Yes-New Project Type	CHIN 7.1					
2018-0716	Snohomish County Enhanced Conservation Reserve		Snohomish Conservation District	SSLIO 10.2 Restoration	No-Continuation	CHIN 2.5					
2018-0535	Making Space For Water Initiative: Water Storage Projects to Restore Salmon Habitat, Improve Hydrology, and Build Climate Resilience in the Stillaguamish and Snohomish Watersheds	Ineak flows, and improve stream and wetland habitat complexity. Project funding through this proposal will result in	Snohomish Conservation District	SSLIO 9.1 Restoration	Yes-New Project Type	CHIN 2.1	CHIN 2.3	CHIN 7.1			

NTA ID	NTA Title	INTA Description		Sno-Stilly Alignment	Gap (Y/N)	Regional Priority Approac		
2018-0123	Using Beaver to Restore Ecosystem Functions in the Snohomish-Stillaguamish Watershed	The Tulalip Beaver Project leverages the ecosystem engineering capabilities of beaver to protect economically and culturally important fish species through habitat and hydrologic process restoration in rearing areas and increase watershed resilience to climate change. Strategically selected sites have been identified using a model where beavers will be placed to increase the area of in-stream fish habitat. Project staff will provide technical assistance to landowners to trap and relocate suitable beaver families. Successful relocations will be defined by the retention of beavers or beaver-constructed dams at sites for nine months or long enough for beavers to reproduce. Colonization will be ensured through continuous supplementation and site monitoring. The goal at relocation reaches is for beaver to increase the water-holding capacity of headwater streams and improve stream channel complexity, decrease peak flows and stream temperatures, and increase groundwater recharge.	Tulalip Tribes	SSLIO 10.2 Restoration	Yes-New Project Type but related to SCD Living with Beavers	CHIN 2.1	CHIN 2.3	CHIN 7.1
2018-0551	Water Supply and Growth in the Rural/Resource Areas	Watershed analysis and hydrogeologic study to support in-stream flows and other senior water rights. Investigation of the relative contribution to in-stream flows from various water sources (snow pack, precipitation, watershed storage, groundwater), water allocation and consumption, and implications from climate change and future population growth. This analysis could contribute valuable data and recommendations for long term water management, flood attenuation, regional mitigation, land use planning on a watershed landscape scale. This type of information could also provide valuable input into capital project planning. Coordination with rural water providers to direct growth into areas where water service is available or where extensions are planned.	Snohomish County	SSLIO 9.1 Protection	No-Continuation	CHIN 2.1	CHIN 2.3	
2018-0904	Water Typing / eDNA Assessments		Wild Fish	SSLIO 10.1 Protection	Yes-New Project	CHIN 1.1	CHIN 4.3	LDC 1.4
2018-0667	Shoreline armoring monitoring and characterization of chinook salmon rearing capacity in edge habitats of Snohomish-Stilly LIO rivers using regional approaches.	This NTA will inventory river bank conditions in the Snohomish-Stillaguamish LIO and describe the extent and locations of shoreline armoring (maps). This river bank conditions information will be used to identify potential restoration actions, evaluate risk to local stakeholders, and compare to armoring identified in 2002/2003. Additionally, the information will be used to estimate Chinook salmon rearing capacity by river using edge conditions including bank type (bar, bank, backwater), edge cover, water depth, substrate size and flow velocity at out-migrant rearing timing. Continuously variable parameters will allow for modeling future rearing capacity associated with short-term habitat improvements or longer-term channel process changes identified by Salmon Recovery Plans. This effort relies on similar modeling implemented by NOAA-NWFSC for the Trinity River, California where restoration potential was also estimated by river reach to help inform site-specific restoration priorities.		SSLIO 1.1 and 1.2 Protection and Restoration	Yes-New Project	SA 1.1	SA 3.4	CHIN 4.3

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2	ロコメ-いわらい	Measuring Habitat Project Effectiveness	This NTA will expand project monitoring implemented after project completion (or pre-project monitoring) in order to extend the time frame over which project actions and outcomes are evaluated. This action will focus on channel reconnection, LWD installation (including flood fencing), changes in floodplain functions and channel morphology, riparian functions, and water quality or biological responses (i.e. fish use and/or B-IBI). For monitoring, site surveys, aerial photo interpretation, land cover analyses, temperature monitoring and other methods will be used to compare results among years and sites. Project monitoring goals are to;  learn from past implementation to improve current practice inform site maintenance and AM needs communicate results assist future project decision-making. The future level of Puget Sound funding and level of Action Agenda effort depends on better understanding restoration action success and contributions to vital sign improvement.	Snohomish County	SSLIO 10.1 Protection and 10.2 Restoration	No-Continuation	SA 3.4	CHIN 4.4	FP 3.4
2	018-0499	SWM Floodplain Project Implementation Plan	The tasks proposed will serve to transparently evaluate, consolidate, and streamline recovery efforts with respect to protection, enhancement and restoration projects, leading to an informed, prioritized list. Anticipated tasks are proposed to be: objectively identify potential process-based actions and associated project locations; identify potential causes of past, present, and future actions of the river and its periphery (for instance, conditions reported by property owners, issues affecting infrastructure or that may potentially lead to increased flooding or erosion); overlay information such as land use and known flooding areas; assemble feasibility and ranking criteria for evaluation of projects, including feasibility, constructability, community support, and alignment with ecology recovery plans; and collaboratively identify and rank project ideas with respect to local and regional priorities, providing scientifically justified reasons for specific projects.	isnonomish i olintv	SSLIO 2.1 Integrated Planning	Yes-New Project	CHIN 1.4	FP 2.1	
2	018-0256	Surface Water Incentive Program	This NTA proposal expands Snohomish County's Surface Water Incentive Program, which provides cost-share incentives to private landowners for water quality protection & restoration projects. The first objective is to expand the Runoff Solutions branch of the program, from the 2018 pilot area to all County rate payers. Runoff Solutions projects include raingardens, rainwater cisterns, depaying, and other runoff reduction techniques. The second objective is to provide supplemental funding for projects under the other two branches of the program, Water Quality Solutions and Aquatic Habitat Solutions, to facilitate installation of more projects. Water Quality Solutions projects improve management of livestock waste, including proper waste storage, waste removal, and control of polluted runoff from livestock heavy use areas. Aquatic Habitat Solutions projects include planting of native riparian vegetation and installation of livestock exclusion fencing to protect & restore riparian areas.	Snohomish County	SSLIO 5.1 Non-Point Source and 6.1 Stormwater Retrofit and LID	Yes-New Project	CHIN 2.5	CHIN 2.6	
2	018-0394	Toxics monitoring of water and sediment in Snohomish County wadable streams	Improve local knowledge of toxics such as (Metals, PCB's, PBDE's, PAH's, and Pharmaceuticals) in water and sediment among different land uses in WRIA's 5, 7 and 8 during storm and baseflow events. Results indicate toxics presence and concentrations across land use types to identify potential impacts to salmon resources. Success in achieving the objectives for this NTA will be met by following a Quality Assurance Project Plan which outlines the objectives, and procedures for data collection, verification, storage and analysis. Information generated will assist in guiding local stewardship, source control, and stormwater retrofit/LID activities. Implemented solutions, help reduce stressors and provide safeguards for fish, wildlife, habiats, and human health and quality of life. This work builds off and aligns with Ecology, WDFW, WSDA, and USGS study.	Snohomish County	SSLIO 5.1 Non-Point Source	Yes-New Project	CHIN 2.5	CHIN 4.2	TIF 1.1

NTA ID	NTA Title	INTA Description		Sno-Stilly Alignment	Gap (Y/N)	Regional Priority Approac		
2018-0097		This NTA will produce a communications plan, communication products, and outreach events for the Sustainable Lands Strategy to expand our collaborative network and reach local decision makers. The creation of our communications plan will begin in 2018 and will be refined as necessary. Communication and outreach products and events may include: - handouts and events for legislators - a new neutral website (not owned by any particular agency or organization) - organizing an annual Farm (& Fish) to Table dinner - regulatory workshops - annual project tours and field trips - social marketing for landowner outreach - land stewardship reward/recognition program - branding and messaging coordination  If funding were to be given to this NTA, it would go towards increasing capacity for communications needs, including facilitation for strategy sessions, event spaces and speakers for dinners, workshops, and other events, and website construction and maintenance.	WDFW	SSLIO 10.1 Protection	No-Continuation	FP 3.1		
2018-0873	Monitoring effectiveness of multi- benefit floodplain project implementation in Snohomish and Stillaguamish Rivers	Using the Index of Floodplain Health created by the Pierce Conservation District and partners, Snohomish County's Sustainable Lands Strategy partners will develop a similar monitoring framework to evaluate the effectiveness of multibenefit planning and project implementation in the Stillaguamish and Snohomish River floodplains. Implementation and effectiveness indicators will be developed to include ecological, economic and social metrics. The results of this monitoring effort will be used to inform the success of the multi-benefit approach as well as necessary modifications to design approaches.		SSLIO 10.2 Restoration	Yes-New Project	FP 3.4	LDC 3.4	EST 3.4
2018-0872	Snohomish County Farmland Protection Initiative		Snohomish Conservation District	SSLIO 8.1 GMA and Recovery Goals	Yes-New Project	FP 3.2	EST 3.2	LDC 3.2
2018-0399	Integrated Hydraulic and Hydrologic Modeling in the Snohomish River and Stillaguamish River Watersheds	Perform regional hydrologic modeling of future scenarios related to climate change in the Snohomish River and Stillaguamish River watersheds to develop projections of future stream flows at individual locations in the modeled watersheds and to develop summary statistics of changing weather patterns for the Snohomish County region. Develop 2-dimensional hydraulic models of the Snohomish River, Stillaguamish River, and the associated floodplains to better describe/delineate flooding extent across varying levels of flood events and better describe realistic flow pathways in the floodplains for both existing conditions and future conditions as described by the results of the proposed hydrologic modeling. The combination of the proposed hydraulic/hydrologic modeling work will improve the regional understanding of current river/habitat conditions as well as enable a better understanding of how regional river processes and habitat conditions may change in the future due to climate change.	ISDADOMISH ( ALIDIV	SSLIO 10.1 Protection and 10.2 Restoration	No-Continuation	FP 1.1	FP 1.3	

NTA ID	NTA Title	INTAT)escription		Sno-Stilly Alignment	Gap (Y/N)	Regional Priority Approach		
2018-0531	Infill - Land use planning to direct	This project includes analysis to identify infill sites within current UGA boundaries, infill sites associated with planning for light rail and use of TDR to transfer growth potential from rural/resource lands into the urban areas.  Growth and infill potential will be evaluated within all urban areas within the county but the primary focus will be the SW UGA, one of the fastest growing areas in the state. This evaluation will identify vacant land, under-developed sites and sites with re-development potential. The amount of infill needed, and the location, is directly related to expected demand based on population and job growth forecasts and allocations to each of the cities and their UGAs. With growth directed into the urban areas, growth pressure is relieved/reduced in the rural and resource areas. With less development in the rural/resource lands, potential impacts to natural landscapes and ecological processes are reduced. Protection for habitat and water quality is improved.		SSLIO 01.1 & 08.1 & 10.1	Y-New Project	LDC 3.2		
2018-0555	New Ruralism	Evaluation and rural land use planning to support existing and new agricultural uses in the rural area and identify potential lands in both rural and urban growth areas suitable for agriculture to offset losses to the agricultural land base through conversion, sea-level rise, floodplain and estuary restoration projects. The evaluation would also examine trends toward smaller farms, examine the need for support services, and include development of programs/initiatives to incentivize farming at any scale, as well as development of code amendments as appropriate. This project would provide multibenefits for agriculture and fish as well as implementation of GMA goals.	Snohomish County	SSLIO 02.1 & 08.1 & 10.1/10.2	N-other work funded	EST 2.1	FP 3.3	
2018-0715	Integrating Climate Resilience into Farm-Fish-Flood project packages in the Snohomish and	Predicted climate changes to local hydrology, water quality and habitat threaten the efforts of restoration practitioners and planners to develop resilient multi-benefit project packages in the floodplains of the Stillaguamish and Snohomish Rivers. The members that comprise the Sustainable Lands Strategy (conservation district, agencies, non-profits, tribes, and farmers) have worked with the University of Washington Climate Impacts Group, the USGS, and Washington State University to model specific impacts of climate change on flooding, sea level rise, groundwater levels, agricultural drainage, and local crops in Snohomish County. This proposal will provide capacity and design funding to integrate this new information into project scoping and design work for salmon restoration, agricultural resilience, and flood mitigation projects.	Snohomish County	SSLIO 02.1 & 10.1/10.2	Y-New Project	FP 2.1	EST 2.1	
2018-0810	Streamside landowner education and assistance within Snohomish County	There are over 660 miles of rivers and streams within Snohomish County, with much of the land surrounding these watercourses under private ownership. In order to meet salmon recovery goals, private landowners need the knowledge and resources to help protect and enhance these important critical areas. This proposal will help landowners not only gain knowledge on the importance of stream health, but will also provide the resource to help them address the degradation of riparian habitats that have occurred from various land management activities over the last 100 plus years. Along with providing educational workshops, this proposal will also assist landowners with labor and materials to complete projects that will protect and enhance habitat and water quality. Landowners completing the workshop will be eligible for on the ground assistance.	Snohomish County	SSLIO 04.1 & 05.1	N-other work funded	SA 3.1	ВІВІ 3.1	
Stormwater								
2018-0394	Toxics monitoring of water and sediment in Snohomish County wadable streams	Improve local knowledge of toxics such as (Metals, PCB's, PBDE's, PAH's, and Pharmaceuticals) in water and sediment among different land uses in WRIA's 5, 7 and 8 during storm and baseflow events. Results indicate toxics presence and concentrations across land use types to identify potential impacts to salmon resources. Success in achieving the objectives for this NTA will be met by following a Quality Assurance Project Plan which outlines the objectives, and procedures for data collection, verification, storage and analysis. Information generated will assist in guiding local stewardship, source control, and stormwater retrofit/LID activities. Implemented solutions, help reduce stressors and provide safeguards for fish, wildlife, habiats, and human health and quality of life. This work builds off and aligns with Ecology, WDFW, WSDA, and USGS study.	Snohomish County	SSLIO 5.1 Non-Point Source	Yes-New Project	CHIN 2.5	CHIN 4.2	TIF 1.1

NT	TA ID	NTA Title	INTA Description		Sno-Stilly Alignment	Gap (Y/N)	Regional Priority Approach		
201	8-0810	Streamside landowner education	There are over 660 miles of rivers and streams within Snohomish County, with much of the land surrounding these watercourses under private ownership. In order to meet salmon recovery goals, private landowners need the knowledge and resources to help protect and enhance these important critical areas. This proposal will help landowners not only gain knowledge on the importance of stream health, but will also provide the resource to help them address the degradation of riparian habitats that have occurred from various land management activities over the last 100 plus years. Along with providing educational workshops, this proposal will also assist landowners with labor and materials to complete projects that will protect and enhance habitat and water quality. Landowners completing the workshop will be eligible for on the ground assistance.	Snohomish County	SSLIO 04.1 & 05.1	N-other work funded	SA 3.1	ВІВІ 3.1	
201		Enhancing soil health in a changing climate for hydrologic, habitat, and agricultural benefits	Soil health is rarely addressed in a holistic manner yet it is key to our hydrologic, habitat, water quality, and agricultural health. In a changing climate where these functions are even more important for resilience of ecosystems, this program will develop and implement a holistic soil health program on agricultural lands throughout Snohomish County. Goals of the program are to reduce runoff from working lands, increase resilience to climate change, and increase productivity through outreach, education, technical assistance, payments for practices, and implementation assistance. It will include a focus on underserved communities of farmers including small-holder immigrant farmers and Hmong farmers. Removing financial and technical barriers for farmers will result in implementation of practices such as cover crops, no-till, agroforestry, crop rotations, mulching, pasture management, and perennial establishment.		SSLIO 04.1 & 05.1	N-other work funded	BIBI 3.1		
201		Implementing a Strategic Watershed based Stormwater Facilities Retrofit Plan to Identify and Correct Un-treated or Under Treated Stormwater Discharge	A strategic retrofit plan is accomplished in four stages.  Stage 1 selects watershed after reviewing existing information, priorities, data gaps, and water quality/drainage problems for multiple watersheds, and prioritizes based on need and opportunity.  Stage 2 prioritizes the most important subwatersheds within priority watersheds. To do this sample locations are established to collect water quality samples, channel condition metrics, B-IBI and hydrologic data.  Stage 3 prioritizes catchments within priority subwatersheds with the highest treatment need and opportunity for improvement. To do this GIS data and stormwater pollutant data are analyzed to identify areas of greatest pollutant generation, least treatment and most opportunity to improve stormwater.  Stage 4 identifies the most cost-effective projects in priority catchments to reduce pollutant loads and runoff volume. To do this GIS and field reconnaissance is used produce a list of prioritized projects for implementation.	Snohomish County	SSLIO 02.1	Y-New Project	BIBI 5.1		
201	8-0869	Professionals	Icreate a sustainable model for program delivery to the underserved Latino population which comprises a large perceptage.		SSLIO 04.1 & 05.1 & 06.1	N-Continuation	BIBI 1.1		
201	8-0882	Assistance for Privately Managed Stormwater Facilities	This NTA will be a collaboration between the Snohomish Conservation District and several different jurisdictions to develop a sustainable model of effectively engaging private landowners in the management of their stormwater detention facilities. This approach will pursue outreach, technical assistance, and financial mechanisms that will engage private land managers in the long-term operation of their facilities. Cost-effective retrofits like habitat enhancements, beaver deceivers, and flow adjustments will also be demonstrated as a way to increase system function and improve the water quality of receiving waters.	Snohomish	SSLIO 04.1 & 05.1 & 06.1	N-other work funded	TIF 1.1	BIBI 1.1	

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2	2018-0926	Sustaining School GSI: Youth Stewardship and Community Learning Laboratory	lwith existing GSL First, curriculum modeling: SCD educators will teach Drain Ranger Currciulum and collaborate with STFM	Snohomish Conservation District	SSLIO 04.1 & 05.1 & 06.1	N-other work funded	BIBI 1.1	
2	2018-0841	Working buffers for water quality, wildlife habitat, and agricultural resilience on agricultural lands	IThe Conservation District will promote and implement working butters on agricultural lands where they widen an existing	Snohomish Conservation District	SSLIO 04.1 & 05.1	N-other work funded	BIBI 3.1	
Ş	Shellfish							
2	2018-0843	Sound Horsekeeping - controlling mud and manure on horse properties in the Snohomish and Stillaguamish River watersheds	Snohomish County (and Camano Island) has one of the largest and diverse horse populations in the United States. While larger livestock operations such as dairies receive more regulatory attention and financial assistance, the Conservation District has concluded that the cumulative effect of thousands of over-stocked and degraded equestrian properties may have a larger, more sustained impact on water quality in this county. The purpose of the Sound Horsekeeping program is to educate and encourage horse owners to implement Best Management Practices that reduce the impact their horses have on water quality, soil health, and riparian habitat. This is to be achieved through removal of identified barriers to BMP implementation including personal site visits and technical assistance, workshops and seminars, loans of equipment such as a manure spreader and lime spreader, soil tests, and funding for project implementation.	Snohomish Conservation District	SSLIO 04.1 & 05.1	Y-New Project	SHELL 1.4	
22	/UTX-UT/9	Financing Options for Healthy Onsite Sewage Systems (OSS)	This proposal provides affordable financing options and education to help residents in Snohomish County maintain healthy OSS systems through grants, rebates, and free septic care workshops for homeowners. These funds will help maintain Snohomish County's existing Savvy Septic Program which offers a variety of financial tools and education to help homeowners maintain healthy systems.  Methods for success include:  1. Hosting at least 6 homeowner workshops on system maintenance.  2. Repair/replace at least 15 OSS systems through grants to low-income homeowners with failing systems.  4. Provide approximately 100 OSS maintenance rebates to homeowners for system inspection and riser installation.	ISnohomish County	SSLIO 07.1 OSS Management	No-Continuation	SHELL 1.8	

Initiative